

Diekemper Gallery of Pre-Columbian Art
Museum of Texas Tech University

SELF GUIDED TOUR AND ACTIVITY
GUIDE

Secondary Level

Museum of Texas Tech University
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Diekemper Gallery of Pre-Columbian Art **Self-Guided Tour**

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The Museum of Texas Tech University

The Museum of Texas Tech University is an educational, scientific, cultural, and research element of Texas Tech University. It consists of several components: the main Museum building, the Moody Planetarium, the Natural Science Research Laboratory, the research and educational elements of the Lubbock Lake Landmark, and the Val Verde County research site.



Photo by Bill Mueller/Museum TTU

Mission Statement

The mission of the Museum is to collect, preserve, interpret, and disseminate knowledge about natural and cultural material from Texas, the Southwest, and other regions related by natural history, heritage, and climate. The Museum's collections, exhibitions, programming, and research complement the diverse interests of Texas Tech and its role in public and professional education in local, state, national, and international communities. Through classroom instruction, practicum, and fieldwork, the Museum provides both theoretical and practical education. It is dedicated to acting as a responsible partner to Texas Tech and the community of museums.

Group Reservations

Reservations for touring the Museum are required, even for self-guided tours.

Bookings must be made at least 2 weeks prior to your visit. Call (806) 742-2456 to reserve your tour time.

Introduction

This packet is designed to enhance high school core knowledge fine art and social studies curricula relating to the art of the Pre-Columbian Period. It includes topics for teacher-led discussions in the *Diekemper Gallery of Pre-Columbian Art* within the Museum of Texas Tech University, as well as student activities to accompany the discussions. The focus of this tour is the pottery and jewelry of the Quimba, Chorotega, Diquis, and Quillacingas peoples of the Interlying Region of Costa Rica, Panama, Columbia and Ecuador.

TEKS Standards Met

Fine Art

Perception (§117.52.1)

Student develops and organizes ideas from the environment.

Creative Expression/Performance (§117.52.2)

Student expresses ideas through original artworks, using a variety of media with appropriate skill.

Historic/Cultural Heritage (§117.52.3)

Student demonstrates understanding of art history and culture as records of human achievement.

Response/Evaluation (§117.52.4)

Student makes informed judgments about personal artworks and artworks of others.

Social Studies

Geography (§113.11)

Student uses geographic skills and tools to collect, analyze, and interpret data.

Culture (§113.20)

Student understands the relationship between the arts and the times during which they were created.

Social Studies Skills (§113.26)

Student communicates in written, oral and visual forms.

Social Studies Skills (§113.27)

Student uses problem solving and decision making skills, working independently and with others, in a variety of settings.

World History (§113.33.6)

Student understands the major developments of civilizations of sub-Saharan Africa, Mesoamerica, Andean South America and Asia.

Overarching Themes:

Time and the environment have eroded many of the objects left by the early civilizations of Central and South America. However, the remaining artifacts continue to offer a vivid account of various traits of people's daily lives. The Diekemper collection comes from a region between Mexico and Columbia and part of Ecuador known as the Interlying Region. This area includes present-day Panama, Colombia, Ecuador and Costa Rica. The area was a well-traveled trade route that brought together many of the most fascinating elements of Pre-Columbian cultures.

The term Pre-Columbian refers to that time before Christopher Columbus' exploration of the new world. An intricately woven path of deities, humans and nature categorized this era. Such accomplishments included a calendar, written alphabet and hieroglyphic writing system, advances in government, architecture, and artistry and craftsmanship in metalwork, ceramics, and stone.

When creating art, many artists glean inspiration from their surroundings. The artists featured in the *Diekemper Gallery* utilized forms primarily inspired by nature and created zoomorphic, or animal inspired, art.

Goals of this self-guided tour:

- ♣ To introduce students to the Interlying region's geography and culture
- ♣ To introduce students to the artistry of the Pre-Columbian peoples
- ♣ To allow students to think critically and creatively

Before you visit the Museum:

- ♣ Prepare students by telling them what they will see when they visit the museum, and what they are expected to accomplish while at the museum.
- ♣ Bring pencils (no pens please) to complete the worksheet provided in this packet. Clipboards are available at the Museum upon request. Be sure to request them when booking your visit.
- ♣ Once you have signed in at the guard's kiosk in the main lobby, proceed to the *Diekemper Gallery of Pre-Columbian Art*. A map directing you to the Gallery is available at the kiosk.

Ceramics



Photo by Bill Mueller, MoTTU

Suggested Pre-visit activities:

To maximize learning, students should experience at least one of the following suggested ideas prior to visiting the Museum and at least one suggested post-visit activity. (*Italicized text is suggested dialog for teacher/student interaction*)

1. Have students study a map of Central and South America, researching and discussing its geography and culture. Compare and contrast the Interlying Regions of Central and South America before Christopher Columbus's discovery and today.
2. Discuss Pre-Columbian characteristics found in ceramics. Pre-Columbian ceramics served several purposes including those used in rituals, burials, ceremonies and utilitarian purposes for daily living. The form of the vessel can be interpreted by its purpose. Discussion and writing assignment: *“What does artwork such as ceramics tell us about a culture? How is this a unique way to learn about culture? What would an archeologist learn about our history and culture if they were to unearth a Lubbock-made vessel one thousand years from now? What does a Lubbock-made vessel look like?”*
3. Introduce the difference between geometric and organic shapes in art; practice drawing these shapes on paper.
4. Practice creating symmetrical and asymmetrical designs on graph paper. Notice and discuss the positive and negative spaces created.

At the Museum activities: Discuss the following topics:

The People

The art within the *Diekemper Gallery* focuses on that made from four groups of people: the Quimba, Chorotega, Diquis, and Quillacingas. The Quimba style of art is one of the more dominant styles within the Gallery. The Quimba people lived in the middle Cauca River Valley of west-central Colombia. This style of art is characterized by the rattle figures, or retablos. These figures are created from a single tube of clay with arms and legs that protrude straight out of the body. Narrow slits that form the mouth and eyes are also characteristics of this style. *What do you think the holes in the body and head represent within this artwork?* Folk art is often characterized by handicrafts and ornamental works produced by people with no formal art training but trained in traditional techniques of a specific region. *Many people may consider this style of artwork to be folk art. Do you agree? Why or why not?*

Little is known about the Quimba, Chorotega, Diquis and Quillacingas peoples. Contemporaries with the Maya to the northwest, they formed a cultural link between the peoples of the Andean area and those of Mexico. Existence focused on towns designed around a central plaza, and subsistence farming based on gourds, beans, corn, and squash. Calendars, books written on deerskin parchment, and ceramics were among their many accomplishments. Artwork included ceremonial and utilitarian objects, including bowls and figures.

Clay

All clay is dug from the earth. It can be found near the ocean or by inland ponds and streams. Clay is formed when tiny bits of dirt carried by streams sink and settle in still water ponds. Clay differs from soil because it has very small traces of mineral particles that hold the clay together. This allows it to be easily molded and shaped.

After the clay is gathered, it is flattened and dried on sheets of tin in the sun for many days, and then soaked in a tub for 2-3 days where it becomes broken down in the water and turns into a soupy mixture. It is then strained through a screen. Water is added until the sifted clay reaches a milkshake-like consistency. Temper is added until the desired texture is reached. Temper may be crushed shells, broken pottery bits, or plant material. Tempering the pottery makes the clay able to take the rapid changes in temperature when firing. Most pieces are then either dried in the sun or fired in a kiln to harden.

There are two traditional ways to make pottery: pinching and coiling. With the pinching method, the artist pinches his or her thumbs into the center of a ball of clay. The thumbs are squeezed on the inside while the rest of the fingers rest on the outside of the pot. The artist continues squeezing and rotating the pot until the walls of the vessel are about 1/4" thick. If any cracks form in the surface, the artist can smooth over by firmly pinching extra clay over the space.

The coil pot is made from coils or ropes of clay. The coils are rolled between the palms of the hands or rolled against a flat surface in a back and forth motion. Coils range from 1/2" to 1" in thickness. Coils are brushed with water to keep them moist and are then added one on top of another to create the vessel. The coils must be firmly joined together or cracks will appear

after the pot dries. The coils can be "welded" together with the fingers by pushing the thumb downward against the coil on the inside of the pot while the other fingers pull upward on the outside of the pot. A smooth, flat scraping tool might also be used to weld the coils together.

Once the artist gets the proper effect of the piece he or she is creating, it is then fired, or cooked, at very hot temperatures in an effort to harden the clay. Once fired, the clay pot turns into a ceramic piece of art.

The difference between ceramics and pottery lies in the firing. Ceramics can be categorized into three different areas: EARTHENWARE is fired below 2,000°F, STONEWARE is usually fired above 2,200°F, and PORCELAIN is fired in a kiln above 2,300°F. Porcelain clay is very smooth, with few impurities and is usually white in color.

Group Activities in the Gallery:

1. Identify symmetry, geometric and/or organic shapes within the vessel shape and within the pattern.
2. Identify positive and negative space within the pattern.
3. Tell your students that they, like the artists featured within the gallery, are going to create a work of art based on their surrounding environment. On a sheet of blank paper, ask your students to sketch a piece of artwork in this gallery, and add a surrounding environment around the figure(s). Remind students that a sketch is a quick drawing and need not be perfect or accurate. *Like the artists featured in this gallery, how did you interpret the environment?* For example, students may choose to depict someone wearing the jewelry, the item that might have originally been held within the vessel, or a ceremony in which the object would have been used. *Was the environment created on paper realistic or imaginary?*
4. Fill out the "Be A Museum Curator" worksheet in this packet.

Suggested Post-visit activities:

1. Make and decorate individual ceramic pottery using polymer or other type of quick drying clay. Experience creating both pinch-pot and coil pot methods.
2. Create a timeline of changes in pottery styles, comparing and contrasting the sculpture of the Pre-Columbian eras with that of later civilizations.
3. Research the similarities and differences in the styles among the four groups of peoples featured in the exhibit.
4. Research the science of ceramics. *Where does clay come from in the Lubbock area? Why does it change during firing? What are glaze and slip? How do they work?*

5. One of the best ways to learn about civilization is to study it through primary sources: that which is created at a specific period in time. As you study the artwork in the *Diekemper Gallery of Pre-Columbian Art*, you will notice the peoples of Central and South America had a rich culture filled with both artistic and utilitarian endeavors. Such artwork can be considered a time capsule into the lives of the peoples featured in the gallery. Prepare a community time capsule as a class so that future generations might learn about our lives today. Points to consider: *What important information do you wish to convey? What primary documents or artwork will you include to describe life in Lubbock? When will your time capsule be opened?*

Jewelry



Photo by Bill Mueller, MoTTU

Suggested Pre-Visit Activities:

To maximize learning, students should experience at least one of the following suggested ideas prior to visiting the Museum and at least one suggested post-visit activity. (*Italicized text is suggested dialog for teacher/student interaction*)

1. Have students choose one of their most prized material possessions for this assignment. Research the most abundant material that makes up that item and research various growing and/or extraction processes of that material. Most common materials might include: gold, silver, wood, plastic, rubber, aluminum, steel, glass or cotton. (Remember that if the material can't be grown, it must be mined from the earth.) Have students draw pictures, or create a collage or poster featuring other uses of and materials that make up their prized possession.

Points to consider:

- In what parts of the earth is this resource most commonly found or produced?
- How is this material taken from the earth? Describe the process.
- How might extracting this material affect the environment?
- How might extracting this material affect the people who live where the material occurs and the people who work to extract it?
- Are there any political/social/cultural factors involved in these areas to reduce damage to the earth? (If not, assign students to become involved in promoting environmental awareness of the situation to the rest of the school or community.)

Lesson inspired by and for similar activities, log on to:

<http://www.nationalgeographic.com/xpeditions/lessons/16/g68/possess.html>

2. Arrange a field trip to a reputable jeweler in your town to discuss various settings and methods the jeweler uses to create, repair and/or embellish jewelry. Class discussion: *Compare/contrast these modern methods with those used by the peoples of the Interlying region.*

3. Gold was a very important mineral to the peoples of the Interlying Regions, as well as others throughout Central and South America before Columbus' discovery of the New World. Research the earliest uses of gold and compare it to how it is used today.

At the Museum Activities:

Look at the jewelry on the wall created by the peoples of the Interlying Region. Like many civilizations throughout history, jewelry and other adornments created by the Pre Columbian peoples served multiple purposes, including beauty, social status, and trade.

Discuss the following:

1. *What materials were used to create the jewelry? What purpose do you think this jewelry served?* The Tairona People of Columbia (100-1500 C.E.) were masters of bead production and mainly worked with turquoise, copper, jasper and gold. They believed that crystals and other stones possessed powers that could be linked to cure illness. For this reason, they tended to grind stones into powder and used as medicines, or held ceremonies in an effort to cure blood diseases. Beads worn in necklaces or bracelets were also used to identify a person's social status or occupation. *Why do people today use and wear jewelry?*

2. Most of the gold work produced by the Quimba peoples of Pre-Columbian Central and South America was not pure gold, but *tumboga*, gold alloyed with copper. It was more durable and could easily be shaped and worked. Several other forms of jewelry featured within the gallery include necklaces, bracelets, brooches, tiaras, and earrings. These were created with the idea of a connection with water, the renewal of life. *What objects do you wear that have a greater association? What is that association?*

3. Writing assignment: Have students pick one piece of jewelry within the Gallery. Ask students imagine they are describing this piece to someone who has never seen it. *How would you describe its texture, shape, size, design and color?*

Post visit Activities:

1. Research and compare/contrast the jewelry styles of the peoples of the Interlying Region with that of other cultures of the same time periods.

2. Using various sizes, styles, and colors of beads or other adornments, have students create their own jewelry based on inspiration from the *Diekemper Gallery of Pre-Columbian Art*, or a one-of-a-kind design.

Extending the Lessons:

Science

- Introduce the concept of crystallography, the mathematical science of classifying crystals according to their geometric shape. Crystals form when changing temperatures beneath the earth's surface first melt a mass of molecules and atoms, and then cool slowly. As they cool, the atoms arrange themselves in symmetrical lattices. *Are there any stones within the necklaces in the Gallery that might have formed due to crystallography?*

- Discuss the atomic properties within the materials in the Gallery (turquoise, jasper, gold, copper) and note how the atomic structure makes each element unique. Design as a team or as a class an imaginary composite material from two or more elements. *What properties should the new material have? How will it be used in the future?*

Math

- The word "tessellate" means to form or arrange small geometric shapes in a patterned, repeating or mosaic pattern. What geometric shapes have the ability to tessellate? *Do you see any of those geometric shapes within the patterns of the pieces featured in the Gallery?* Incorporate elements and principles of design: color, balance, repetition, and pattern in the discussion. Create some tessellations when you return to the classroom.

Language Arts

- Myths and legends were very important to several Pre-Columbian cultures. A myth is a traditional story accepted as history. A legend is a story about mythical or supernatural beings or events. Have students write an original myth or legend based on a piece of artwork within the Gallery.

BE A MUSEUM CURATOR

Directions: Look around the *Diekemper Gallery of Pre-Columbian Art*. Pick one object in this room and write down your observations. Through careful study, we can learn many details about an object.



1. Preconceptions: What is this object and what do you think it was used for?

2. Observe the object and describe it. (Hint—use *all* your senses. Don't just describe what it looks like. What do you think it feels like? What do you think it sounds like? What do you think it smells like? What do you think tastes like?)

2a. Material(s): What is the object made of? _____

2b. Construction: How is it put or held together? _____

2c. Dimension(s): How would you describe the size of the object?

2d. Condition: Is the object new or worn? Are there any other "wear marks" that show how it was used?

2e. Marking(s): Is there something written, stamped, or drawn on the object? Are there any other markings that would distinguish it from a similar object?

2f. Design: What "style" does the object have? (Hint—is it fancy or plain? Is it modern or old-fashioned? Does it remind you of another decade or century?)

3. History: Look at the label near the object. All museum objects on display have a label that explains who made this object, when, and what materials (also called media) were used to make it. Write that information here.

4. Use/Meanings: How do you think this object was used? What does this tell us about the owner? What does this tell us about the society that used it?

Central and South America



Image found at: <http://worldatlas.com/webimage/countrys/namerica/americas.htm>

Ceramic Glossary

Bisque:

Clay that has been fired but not glazed.

Ceramic:

Any man-made solid produced by the fusion of mineral substances in a kiln. The term 'pottery' is used to refer to those individuals who fabricate their own ware using flexible clays of all types and at all temperatures ranges.

Clay:

A mineral with a plate-like structure; it is these plates which, when lubricated with water, slide against one another to form the flexible mass we know as clay.

Coil pottery

Making pottery by laying down layers of coils and working them together into an even wall.

Earthenware:

A low-fired form of pottery (porous clay bodies), which is fired to maturity at approximately 2012°F. Terra Cotta is a special type of earthenware where red burning clay is used.

Firing:

The process that changes clay into ceramic.

Glaze:

A thin 'glassy' layer formed on the surface of fired ceramic. Glazes are a finely ground mixture of mineral and human-made powders tuned to melt and flow at a specific temperature. Many types of clay will melt well at high temperatures and thus qualify as 'slip' glaze.

Kiln:

An insulated box which is heated and 'fires' clay and glazed objects to maturity. The maximum operating temperature for most pottery kilns is about 2372°F although many wood fired kilns may be fired up to 2462°F.

Slip:

Clay with enough water added to become a 'cream' like consistency, it is used to join slabbed forms and handles and spouts to the body of the vessel while leather hard, but before the bisque firing.

Throwing:

Delicate balance that defies gravity and centrifugal force as clay is coaxed up by hand from the spinning turntable. A process ideally suited to forming vessels, cups, or vases.

Sources: <http://www.kilnworks.co.uk/glossary/> <http://digitalfire.com/education/glossary/>

Jewelry Glossary

Alloy:

A combination of two or more metals. Common alloys used in jewelry are: gold under 24 karat (mixed with silver, copper, and/or other metals), sterling silver (92.5% silver, 7.5% copper), brass (roughly half copper, half zinc), bronze (at least 60% copper with tin and perhaps other metals), and pewter (tin, lead, antimony, and a bit of silver or copper).

Annealing:

The process of heating a metal and then cooling it to make it more workable. As metal is worked (hammered, rolled, etc.), stresses make the metal brittle (the metal molecules are pulled into random structures during the working). Annealing the metal make the metal re-crystallize, putting the molecules in an orderly structure.

Beads:

A small object with a hole through it for stringing. Beads are made of glass, stones, wood, plastics, seeds, and ceramics.

Bib Necklace:

A short necklace with flowing ornaments in the front. Also known as a collaret.

Brooch:

An ornament that can be pinned to a garment.

Bronze:

A metal alloy containing (at least 60%) copper plus tin and other metals.

Carat:

A standard measure of weight used for gemstones. One carat weighs 0.2 gram (1/5 of a gram or 0.0007 ounce).

Copper:

A soft metal often used in jewelry. It is used in making bronze, brass, and gold alloys.

Jewelry:

An article of personal adornment, such as a ring, necklace, bracelet, cuff links, or pin. Jewelry can be made from metal, stones, glass, plastic, or other materials.

Turquoise:

A non-translucent, porous semi-precious stone (it is a hydrated phosphate of copper and aluminum) that is usually cut as a cabochan, a stone that has a rounded, domed surface with no facets.

Yellow Gold:

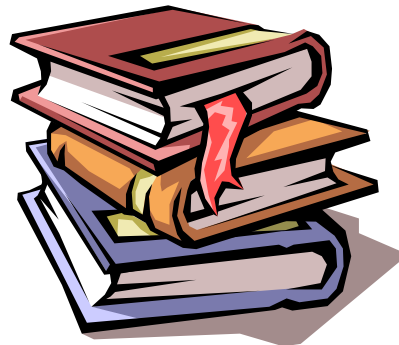
Yellow gold is gold that has been alloyed with a mix of 50% copper and 50% silver.

Source: <http://www.EnchantedLearning.com/jewel/glossary/>

For Further Reading/Reference:

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- Pang, Hildegard Delgado. (1992). *Pre-Columbian Art : Investigations and Insights*. Norman : University of Oklahoma Press.
- Peterson, Susan. (2003). *The Craft and Art of Clay*. (4th ed.) Woodstock, NY: Overlook Press.
- Plowman, John. (1995). *The Encyclopedia of Sculpting Techniques*. Philadelphia : Running Press.
- Speight, Charlotte F. (1995). (3rd ed.) *Hands In Clay : An Introduction to Ceramics*. Mountain View, Calif. : Mayfield Publishing Company.
- Triplett, Kathy. (1997). *Handbuilt Ceramics : Pinching, Coiling, Extruding, Molding, Slip Casting, Slab Work*. Asheville, N.C.: Lark Books.
- World's Greatest Train Ride Videos: Ecuador*. (1995). [videorecording] France 2 Publishers. 57 minutes.

These items can be found within the Lubbock City-County Public library system





We Want to Know What You Think!

We at the Museum of Texas Tech University strive to produce the most user-friendly educational programs for area teachers. Please take a few minutes to fill out this survey reflecting the *Diekemper Gallery of Pre-Columbian Art Self-Guided Tour and Activity Guide* and return it before leaving the museum.

You can also mail the survey to:
Education Division
Museum of Texas Tech University
Box 43191
Lubbock, Texas 79409-3191

Please circle the number that best represents your opinion.

1.) I used this packet in my curriculum while on a recent class trip to the Museum of Texas Tech University.

1	2	3	4	5
completely agree		somewhat agree		disagree

2.) My students enjoyed the activities provided in this packet.

1	2	3	4	5
completely agree		somewhat agree		disagree

3.) This self-guided tour was easy to use when planning my curriculum.

1	2	3	4	5
completely agree		somewhat agree		disagree

4.) The activities provided in this packet were age-appropriate for high school.

1	2	3	4	5
completely agree		somewhat agree		disagree

Please use the back of this paper for providing additional feedback that the education division might use to update this self guided tour.